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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,662	05/01/2006	Takayuki Yokota	1034509-000004	8040

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EXAMINER

MCCALISTER, WILLIAM M

ART UNIT	PAPER NUMBER
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3753

NOTIFICATION DATE	DELIVERY MODE
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09/11/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/577,662	Applicant(s) YOKOTA ET AL.	
	Examiner WILLIAM MCCALISTER	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 12-14 and 17-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12-14 and 17-23 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of the Claims

The Amendment of June 4, 2008 is acknowledged. The Amendment amended claims 1 and 7, added new claims 21-23, and cancelled claims 10, 11, 15 and 16. Currently claims 1-9, 12-14 and 17-23 are pending for consideration.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 7, 8, and 19-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Hishikawa (JP 2003-144546).

With regard to claim 7, Hishikawa discloses a connector comprising:

a tubular male joint member (see annotated FIG 5, below);

a liquid passage portion (73) having a liquid passage space defined therein (a generally cylindrical space of reduced radius, centered along the axes which define the liquid passage portion) in fluid communication with an interior of said male joint member;

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a valve body (4) disposed fixedly with respect to said male joint member and having a head (3) and a neck (2) interconnecting said head and said liquid passage portion, said neck being thinner than said head, said valve body having a slit (32) extending from a top surface of said head to said liquid passage space, said valve body being made of an elastic material (inherent to deformation illustrated in FIG 6); and

a housing (61) having a female joint port (612) capable of receiving a tube, said housing being movable in the direction of a central line of said female joint port with respect to said valve body and said male joint member (the housing is axially fixed only in the direction of member 6), said housing accommodating said valve body therein, wherein said male joint member **is connected to** said valve body (by tongue and groove members shown near elements 41 and 42) to move therewith relative to said housing when said valve body is pressed by a tube (see positions illustrated in FIGS 1 and 2);

wherein when a tube is inserted into and connected to said female joint port, the tube presses said valve body to move said valve body and said male joint member with respect to said housing (see FIG 2), and to deform said valve body to open said slit (see FIG 6), bringing an interior of the tube and an interior of said male joint member into fluid communication with each other through said slit and said liquid passage space.

With regard to claim 8, Hishikawa discloses the housing to have a tapered portion (see annotated FIG 2, below) disposed behind said female joint port and having an inside diameter along the width of said slit , said inside diameter being progressively reduced

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into said female joint port (diameter is smaller at female joint port than at opposite end of housing), and when the tube is connected to said female joint port, the tube presses said valve body to move said valve body into said tapered portion, so that said valve body is pressed (axially) and deformed along the width of said slit (deformation occurs in the vicinity of the tapered portion) indirectly by a tapered surface of said tapered portion (but for the tapered opening the slit would be held closed by the smaller diameter of the upper portion of the housing), thereby opening said slit.

With regard to claims 19 and 20, Hishikawa discloses the fluid passage space to be of a shape for preventing a liquid from being trapped therein when the liquid flows in said liquid passage space (because the liquid passage space comprises no structural surfaces, there would be no fluid trapped therein).

Regarding claim 21, as best understood Hishikawa discloses the center line of said female joint port and a center line of said male joint member to be skew lines (with reference to any third, non-intersecting line(s)).

Regarding claim 22, Hishikawa discloses a connector comprising:

- a tubular male joint member (73);

- a liquid passage portion (23, 72) having a liquid passage space defined therein (a generally cylindrical space of reduced radius, centered along the axis which defines

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the liquid passage portion) in fluid communication with an interior of said male joint member;

a valve body (4) disposed fixedly with respect to said male joint member and having a head (3) and a neck (2) interconnecting said head and said liquid passage portion, said neck being thinner than said head, said valve body having a slit (32) extending from a top surface of said head to said liquid passage space, said valve body being made of an elastic material (inherent to deformation illustrated in FIG 6);

a housing (5) having a female joint port (top opening, as illustrated in FIGS 1 and 2) capable of receiving a tube (10, as illustrated in FIG 2), said housing being movable in the direction of a central line of said female joint port with respect to said valve body and said male joint member (compare the locations of these parts across FIGS 1 and 2), said housing accommodating said valve body therein (see FIG 2); and

urging means (8) for urging said housing to return to an original position (with respect to the male joint member and the valve body) when the tube is removed from said female joint port;

wherein when a tube is inserted into and connected to said female joint port, the tube presses said valve body to move said valve body and said male joint member with respect to said housing (compare FIGS 1 and 2), and to deform said valve body to open said slit (see FIG 6), bringing an interior of the tube and an interior of said male joint member into fluid communication with each other through said slit and said liquid passage space.

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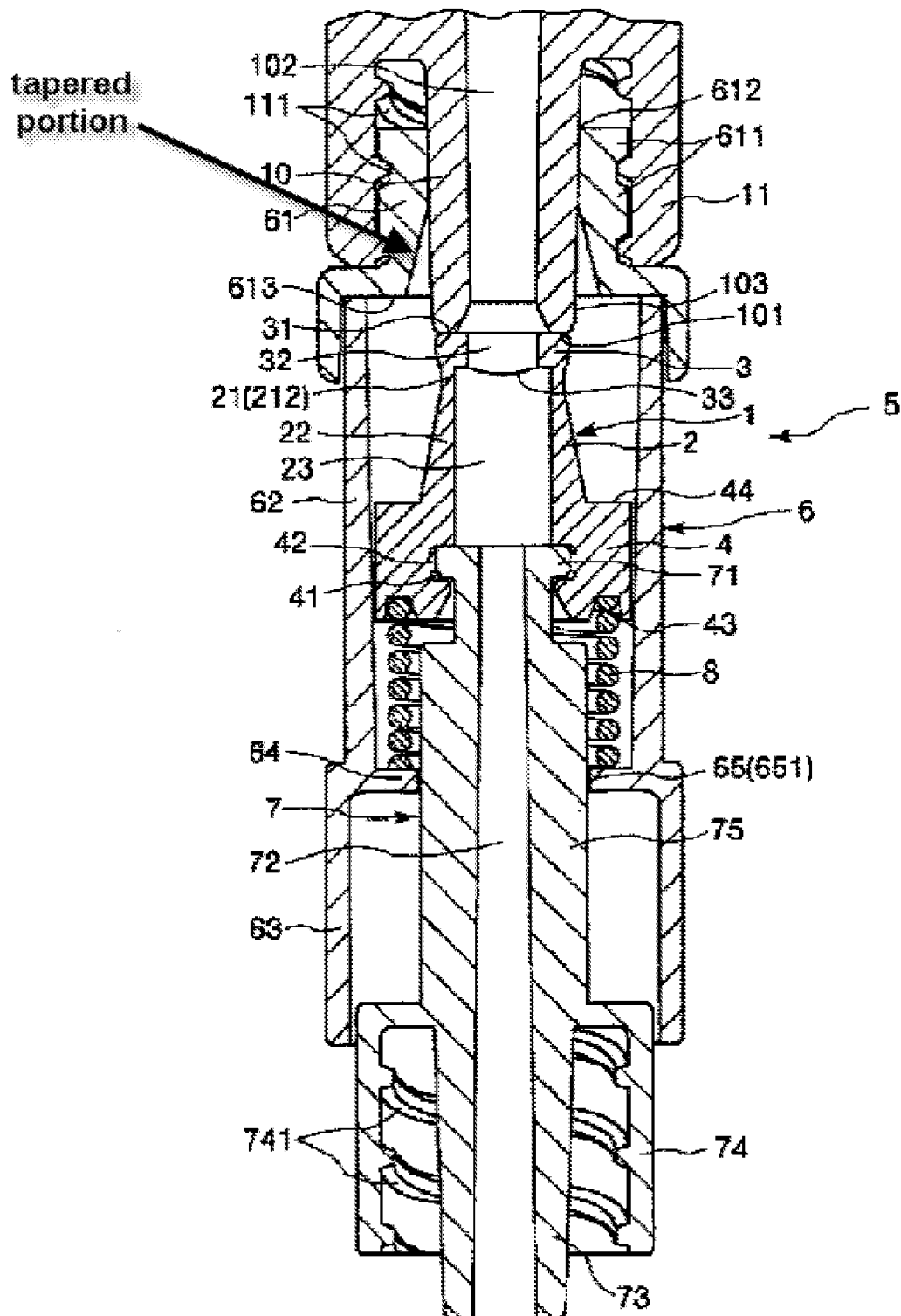
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Regarding claim 23, see the analysis of claim 8 above.

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Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-6, 12, 13, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leinsing.

With regard to claim 1, Leinsing discloses a connector comprising:

a tubular male joint member (see annotated FIG 5, below);

a liquid passage portion (all interior space through which fluid flows, as illustrated at annotated FIG 5, below) having a liquid passage space defined therein (two generally cylindrical spaces of reduced radius, centered along the axes which define the liquid passage portion) in fluid communication with an interior of said male joint member, said liquid passage space being of a shape preventing liquid from being trapped therein when the liquid flows in said liquid passage space (because the liquid passage space comprises no structural surfaces, there would be no fluid trapped therein);

a first female joint port (18) which is capable of receiving a tube (see annotated FIG 5, below);

a first valve body (46,48) having a head (24) and a neck (57) interconnecting said head and said liquid passage portion, said neck being thinner than said head, said first valve body having a slit (26) extending from a top surface of said head to said liquid passage space, said first valve body being made of an elastic material (see reference to "deformable piston" in column 3 line 33);

wherein when a tube is connected to said first female joint port, said first valve body is deformed to open the slit of said first valve body (see column 3 lines 33-39) to bring an interior of the tube and an interior of said male joint member into fluid communication with each other through the slit of said first valve body and said liquid passage space.

Liensing also discloses an inlet port (see annotated FIG 5, below), but does not disclose a second valve body or a second female joint port. However, to avoid contamination and reduce the need for cleaning at the inlet port, it would have been obvious to one of ordinary skill in the art at the time of invention to supplement the inlet port of Leinsing's connector with a second valve body and second female joint port of the same construction and function as the first valve body and first female joint port, to predictably obtain a connector which creates an airtight seal while connecting to either inlet rather than just the first inlet. (Alternatively, it would have been obvious to one of ordinary skill in the art at the time of invention to provide a second valve and second female joint port, as it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8)

With regard to claim 2, Leinsing discloses the first female joint port and the male joint member to have respective central lines extending substantially parallel to each other.

With regard to claim 3, to decrease manufacturing costs of the connector it would have been obvious to one of ordinary skill in the art at the time of invention to integrally form the first and second valve bodies (and thereby the liquid passage portion as well), to predictably obtain a connector wherein both valve bodies are fashioned simultaneously from one mold, since it has been held that forming in one piece an article an article

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which would otherwise be formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

With regard to claim 4, Leinsing discloses said first female joint port to be movable in the direction of a central line thereof relative to the corresponding valve body. (See column 5 lines 57-62 describing member 16 to be received over member 28, i.e. – in the direction of a central line of the valve body. Additionally, taking the valve body as the frame of reference, it is movable with respect to the female joint port because the valve body deforms axially.)

With regard to claim 5, as best understood Leinsing discloses a connector comprising:

a tubular male joint member (see annotated FIG 5, below), a liquid passage portion (see annotated FIG 5, below), a female joint port (18), a valve body (46,48), and an inlet port. To avoid contamination and reduce the need for cleaning at the inlet port, it would have been obvious to one of ordinary skill in the art at the time of invention to supplement the inlet port of Leinsing's connector with another valve body and female joint port, to predictably obtain a connector which creates an airtight seal during initial connection to both inlets rather than at just one inlet. Alternatively, it would have been obvious to one of ordinary skill in the art at the time of invention to provide a second valve and second female joint port, as it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8)

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This modified connector would have comprised: a first female joint port (18 as used with the inlet port) and a second female joint port (18) which are capable of receiving a tube (see annotated FIG 5, below); a first valve body (46,48 as applied to the inlet port) disposed in said first female joint port and made of an elastic material (see reference to “deformable piston” in column 3 line 33), said first valve body having a slit (26); and a second valve body (46,48) disposed in said second female joint port and made of an elastic material (see reference to “deformable piston” in column 3 line 33), said second valve body having a slit 26; the central line of said first female joint port and the central line of said second female joint port being skew lines (see Response to Arguments, below); wherein when a tube is connected to said first female joint port (as a supplemental tube is applied to the inlet port), said first valve body is deformed to open the slit of said first valve body to bring an interior of the tube and an interior of said male joint member into fluid communication with each other through the slit of said first valve body (see column 3 lines 33-43); and when a tube is connected to said second female joint port (see annotated FIG 5, below), said second valve body is deformed to open the slit of said second valve body to bring an interior of the tube and the interior of said male joint member into fluid communication with each other through the slit of said second valve body (see column 3 lines 33-43).

With regard to claim 6, see the analysis of claim 4, above.

With regard to claim 12, see obviousness analysis of claim 3 above.

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With regard to claim 13, see the analysis of claim 4 above.

With regard to claims 17 and 18, Leinsing discloses the fluid passage space to be of a shape for preventing a liquid from being trapped therein when the liquid flows in said liquid passage space (because the liquid passage space comprises no structural surfaces, there would be no fluid trapped therein).

U.S. Patent

Oct. 14, 1997

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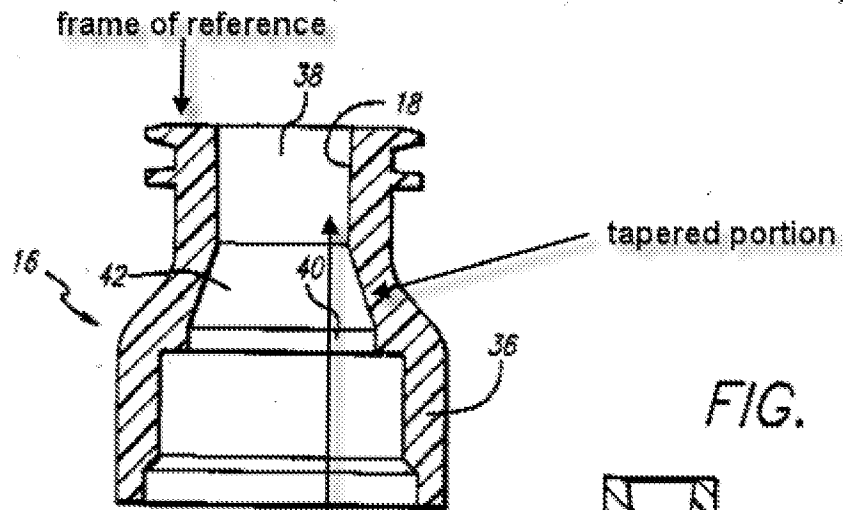


FIG. 6

frame of reference #2

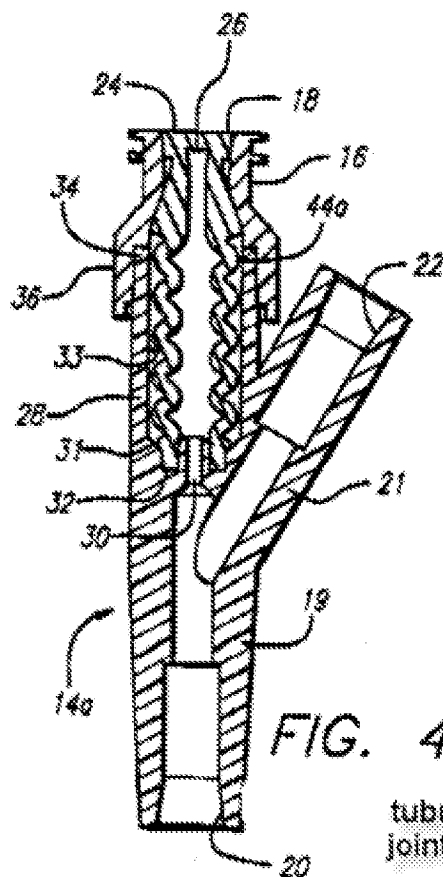
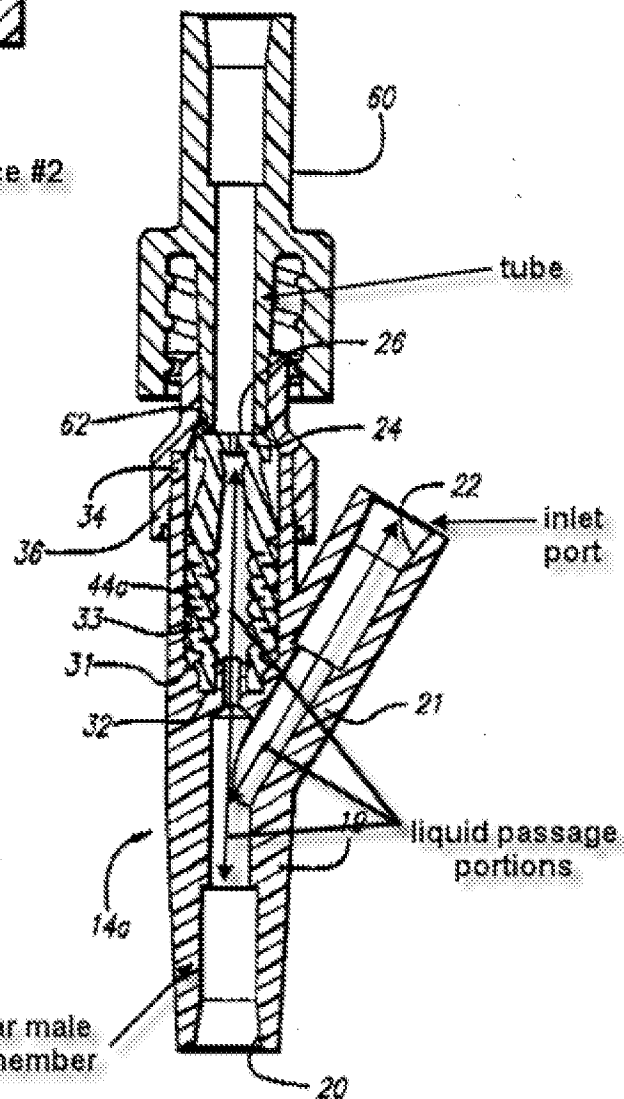


FIG. 4

tubular male
joint member

FIG. 5

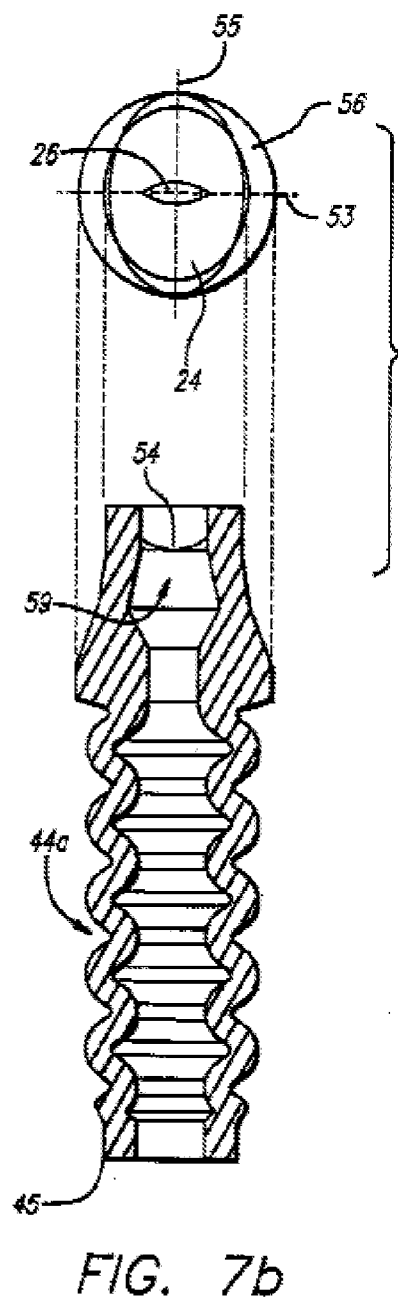
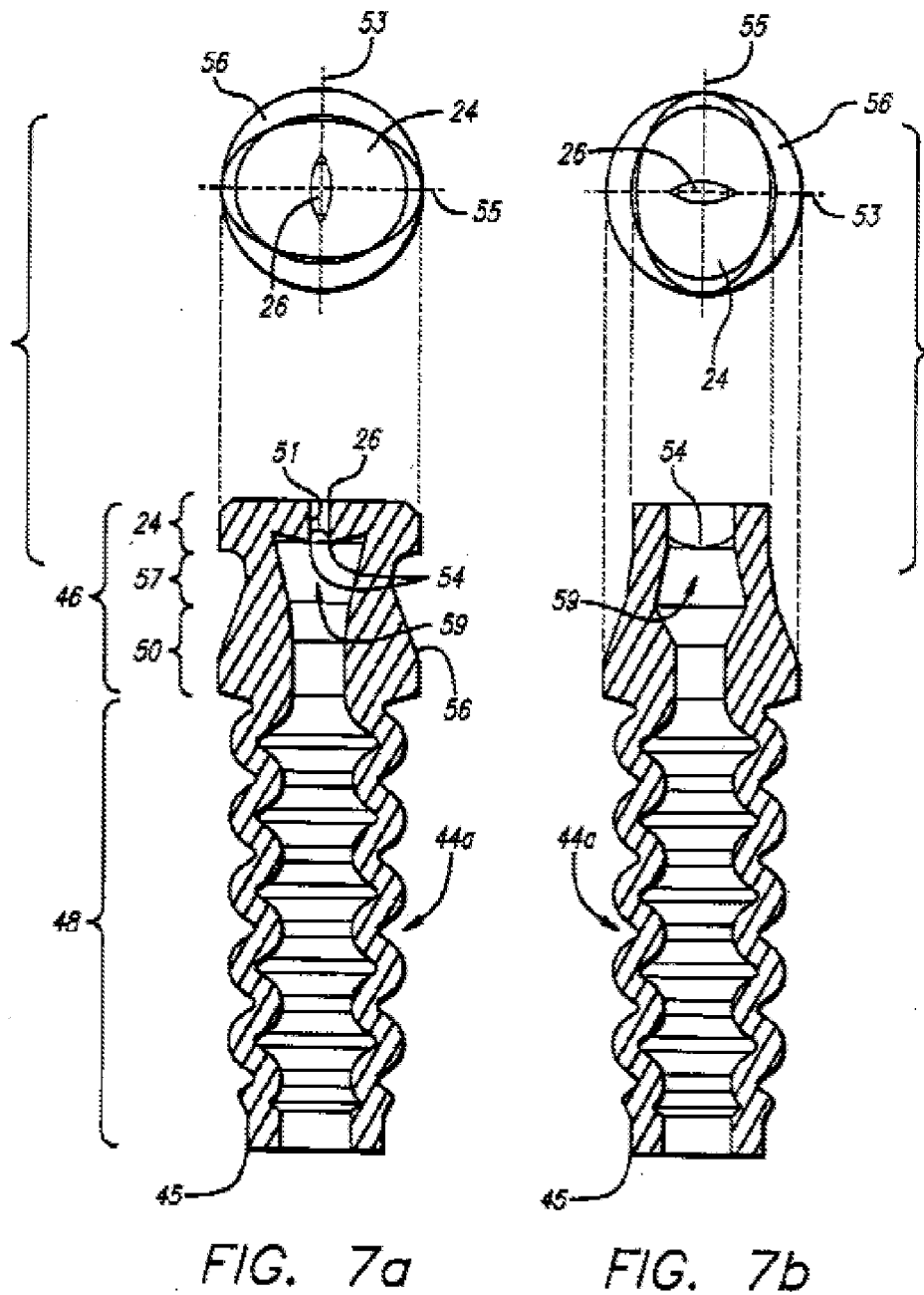


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7. Claims 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hishikawa as applied to claims 7 and 8, respectively, and further in view of Bonaldo (US Patent 5,273,533) and Gereg (US Patent 4,449,663).

Hishikawa discloses all the limitations of claims 7 and 8, but not the support member or valve opening action of claims 9 and 14. However, Bonaldo teaches a similar connector, wherein a support member (78) is disposed fixedly (in a radial direction) with respect to a joint member and supporting a head (66) of a valve body from a neck (64) thereof. To increase the durability of Hishikawa's connector, one of ordinary skill in the art at the time of invention would have supplemented it with Bonaldo's support member (on the exterior of the neck, as reversal of parts has been held to involve only routine skill in the art), to predictably obtain a connector wherein the force which is transferred to the valve during tube insertion would be carried by a stiff element, rather than by the thin pliable neck.

Additionally, Gereg teaches a similar connector wherein the valve is opened directly by a compressive force. To ensure dependability of the Hishikawa-Bonaldo connector, one of ordinary skill in the art at the time of invention would have constructed the valve head and tapered portion of the valve housing as taught by Gereg, to predictably obtain a connector wherein a mechanical structure forces the valve open, rather than relying on the self-acting resiliency of the valve member which might become obstructed or brittle over time. The resulting connector would have operated such that when a tube is connected to the female joint port the tube would press said

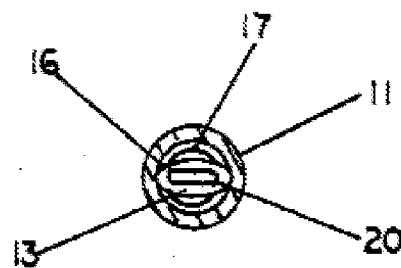
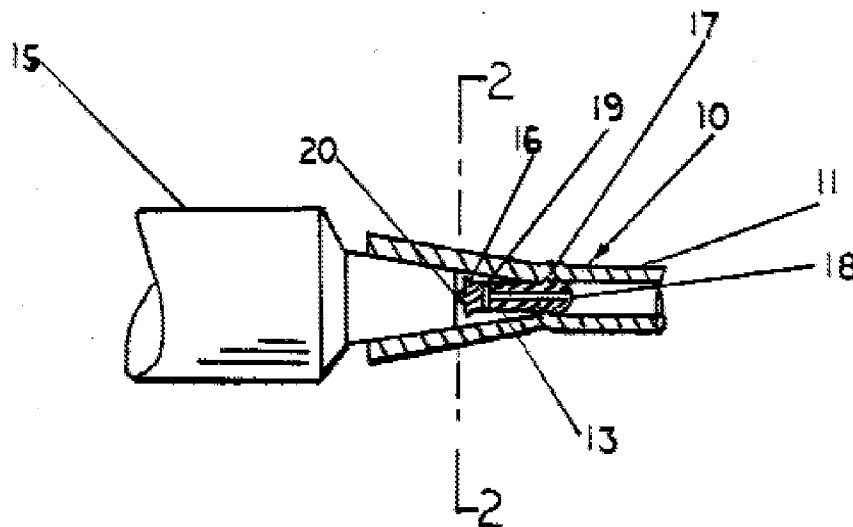
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valve body to move said valve body together with said support member into said tapered portion, so that said head of said valve body is pressed and deformed along the width of said slit directly by a tapered surface of said tapered portion, and the neck of said valve body is pressed and deformed along the width of said slit by said tapered surface indirectly through said support member, thereby opening said slit.

Patent

May 22, 1984

4,449,693



Response to Arguments

12. Applicant's arguments with respect to claims 1 and 7 have been considered but are moot in view of the new ground(s) of rejection.

13. Applicant's arguments with respect to claim 5 have been fully considered but they are not persuasive. Applicant contends that because Webster's dictionary defines skew

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lines as non-intersecting, Leinsing's central lines of the first and second female joint ports are not skew. However, the broadest reasonable interpretation of the claim language reads on the prior art, because in that each center line is skew with respect to any third non-intersecting line(s).

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US Patent 5,501,426 discloses a similar connector with an

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expandable valve, but in which the valve housing does not move with respect to the valve body.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM MCCALISTER whose telephone number is (571)270-1869. The examiner can normally be reached on Monday through Friday, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Huson can be reached on 571-272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WILLIAM MCCALISTER/
Examiner, Art Unit 3753

/Stephen M. Hepperle/
Primary Examiner, Art Unit 3753

WM
9/5/2008

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